

Amend 9/22/05  
12/1/02 9/22/03

CLAIM AMENDMENTS

This listing of claims replaces all prior versions, and listings, of claims in the application.

1.-11. (Canceled)

12. (Currently Amended) A method of enhancing the specificity of a potato tuber plant lipoxigenase for position 11 of arachidonic acid comprising changing at least one amino acid in a wild type potato tuber plant lipoxigenase comprising an amino acid sequence of SEQ ID NO: 3, wherein ~~characterized in that~~ the change takes place at position 576 of SEQ ID NO: 3 potato tuber lipoxigenase having accession number S73865 in the EMBL database or at a corresponding position in a lipoxigenase of another plant species, and whereupon the specificity of the potato tuber plant lipoxigenase for position 11 of arachidonic acid is enhanced.

may be more than one as well. Therefore any variant

857 AA

not limited to sub at pos. 576

→ compared to what?

13. (Previously Presented) The method according to claim 12, characterized in that the change at position 576 results in the presence of a Phe residue at position 576.

14. (Previously Presented) The method according to claim 12, characterized in that the amino acid change is effected by directed mutagenesis.

→ any variant

✓ 15. (Previously Presented) The method according to claim 13, characterized in that the amino acid change is effected by directed mutagenesis.

16. (Currently Amended) An isolated or purified lipoxigenase obtained obtainable by the method of claim 12.

→ Any variant

✓ 17. (Currently Amended) An isolated or purified lipoxigenase obtained obtainable by the method of claim 13.

18. (Previously Presented) An isolated or purified nucleic acid encoding the lipoxigenase of claim 16.

→ Am variant

✓ 19. (Previously Presented) An isolated or purified nucleic acid encoding the lipoxigenase of claim 17.

includes any wild type lipoxigenase

20. (Previously Presented) An isolated or purified vector comprising the nucleic acid of claim 18. → Any variant

✓ 21. (Previously Presented) An isolated or purified vector comprising the nucleic acid of claim 19.

22. (Currently Amended) A An isolated cell comprising the nucleic acid of claim 18 and/or a vector comprising said nucleic acid. → Any variant

✓ 23. (Currently Amended) A An isolated cell comprising the nucleic acid of claim 19 and/or a vector comprising said nucleic acid.

24. (Withdrawn) A plant or a plant part comprising the cell of claim 22.

25. (Withdrawn) A plant or a plant part comprising the cell of claim 23.

26. (Withdrawn) A method for producing 11-perhydroxy arachidonic acid or the reduced 11-hydroxy derivative thereof comprising incubating arachidonic acid with the lipoxigenase of claim 16 under appropriate conditions, whereupon 11-perhydroxy arachidonic acid is obtained, and, optionally, reducing the 11-perhydroxy arachidonic acid, whereupon the reduced 11-hydroxy derivative thereof is obtained.

27. (Withdrawn) A method for producing 11-perhydroxy arachidonic acid or the reduced 11-hydroxy derivative thereof comprising incubating arachidonic acid with the lipoxigenase of claim 17 under appropriate conditions, whereupon 11-perhydroxy arachidonic acid is obtained, and, optionally, reducing the 11-perhydroxy arachidonic acid, whereupon the reduced 11-hydroxy derivative thereof is obtained.

28. (Withdrawn) An arachidonic acid derivative containing a hydroxy group at position 11.